

Visual Mathematics in Practice



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| Name of the teacher: | <i>Milena Jeretin</i> |
| e-mail: | milena.jeretin@gmail.com |
| Name and address of the school: | <i>Architectural technical high school, Vojislava Ilića78, Belgrade, Serbia</i> |
| Theme of the lesson: | <i>Fractal structures</i> |
| Place in curriculum: (type of school, grade) | <i>High school, 3th grade</i> |
| Age of the students/pupils: | <i>17-18 years</i> |
| Title of the lesson: | <i>The search for the fractal structures in the cultural heritage</i> |

Description of the lesson

| Time | Exercises, matters, parts of the lesson | Methods and forms of student activities | Developable competencies |
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| | <i>At the beginning of the school year we visited the Ethnographic Museum and realized the workshop "The search for the fractal structures in the cultural heritage" in the cooperation with Tijana Čolak-Antić.</i> | | <i>Thinking, learning, developing, creativity, communication</i> |
| <i>10min</i> | <i>Curator of the museum announces what we are going to do in the workshop and introduces the students to the production of textiles and traditional ornaments.</i> | <i>groups</i> | <i>listening</i> |
| <i>5min</i> | <i>She introduces students to ways of how the people used to dress themselves with the additional tour of the costumes at the exhibition.</i> | <i>tour of the exhibition</i> | <i>listening watching</i> |

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| 5min | <i>The division of students into groups and task assignments. (Students should find three items according to the non –completed drawings)</i> | <i>work in pairs</i> | |
| 10min | <i>Search for the items</i> | <i>work in pairs</i> | <i>identifying details, researching, communication, competitive spirit</i> |
| 15min | <i>The search for the fractal structure of the exhibits . The teacher explains fractal structures on the chosen items, maintaining the dialogue with the students.</i> | <i>tour of the exhibition</i> | <i>learning, listening, watching</i> |
| 20min | <i>Students are assigned to draw their own pattern of fractal structure on the paper using computer and website http://csdt.rpi.edu/african/African_Fractals</i> | <i>individual work</i> | <i>drawing, creativity, originality</i> |
| 5min | <i>Students were given a task for their homework to draw some patterns of fractal structures and send their works to the teacher's mail</i> <i>Inspiration: Ljiljana Radović, Katarina Ivanović</i> | | |

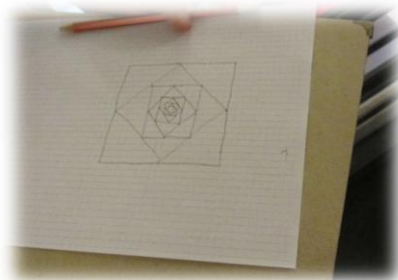
Summary

I am pleased that I managed to connect students mathematics to cultural heritage and some of the old (new) objects observed fractal structure . Students were very interested. They were especially interested since the search for fractal structures was outside the classroom in the museum.

Supplements

Used materials: *Exposed objects in the museum, papers A4, pencil, notebook, applets on the site http://csdt.rpi.edu/african/African_Fractals.*

Photos:



<http://milenaeretin.wordpress.com/>